ABSTRACT OF THE DISCLOSURE

A fuel cell apparatus includes a fuel cell connected directly to a load. An electricity accumulation circuit including an electricity accumulator is connected in parallel to the fuel cell. The electricity accumulator supplies electric power to the load when electric power supplied by the fuel cell is less than electric power that the load requires. The electricity accumulator is charged by regenerative power generated at the load and electric power output from the fuel cell. The fuel cell outputs electric power within a predetermined range.

FIG. 4

A: OUTPUT CHARACTERISTICS

B: CURRENT

C: VOLTAGE

D: POWER

FIG. 5

S1: CALCULATE VEHICLE-REQUIRED POWER

S2: VEHICLE-REQUIRED POWER < FC MAXIMUM OUTPUT POWER?

S3: BATTERY OUTPUT POWER =

VEHICLE-REQUIRED POWER - FC MAXIMUM OUTPUT POWER

S4: OUTPUT CALCULATED POWER

FIG. 6

S6: MEASURE FC VOLTAGE

S7: FC VOLTAGE > FC LOWEST GENERATABLE VOLTAGE

S8: FC VOLTAGE < FC LOWEST GENERATABLE VOLTAGE + α

S9: INCREASE BATTERY OUTPUT

S10: STOP BATTERY OUTPUT

FIG. 7

11: FUEL CELL

31: FUEL STORAGE UNIT

32: OXIDIZER SUPPLY SOURCE